WHAT IS CLAIMED IS:

1. A method for performing a measurement in a network comprising:

creating an Internet Protocol Measurement Protocol (IPMP) packet by a measurement host; and

including in the IPMP packet instructions for a recipient of the IPMP packet, said instructions including an instruction to a recipient to process data included in a predetermined field in the IPMP packet as a data packet.

2. The method according to claim 1, further comprising:

encapsulating the IPMP packet in an Internet Protocol (IP) datagram and a predetermined link layer protocol.

3. The method according to claim 2, further comprising sending the IPMP packet into the network from the measurement host.

4. The method according to claim 3, further comprising:

identifying the IPMP packet upon receipt by a recipient network device; and

examining a contents of the IPMP packet for instructions before forwarding the IPMP packet by the recipient network device.

5. The method according to claim 1, wherein said instructions include an instruction to insert a time stamp by the recipient network device.

6. The method according to claim 1, wherein said instructions include an instruction to insert additional data providing further details about the time stamp.

7. The method according to claim 6, wherein said additional details include when the time stamp occurred relative to an arrival of the IPMP packet at the recipient network device.

8. The method according to claim 1, wherein said instructions include an instruction to insert a path record.

9. The method according to claim 1, further comprising:

analyzing by the measurement host information included in one or more of the following: a reply, an absence of a reply, a delay between the IPMP packet and an IPMP echo reply packet, a value of a time to live value in an IPMP echo reply packet, a path record, and a presence of one or more errors in an IPMP echo reply packet.

10. The method according to claim 1, wherein the instructions in the IPMP packet include a time to live value to be decremented by each recipient of the IPMP packet until the time to live value reaches zero, in which case one or more predetermined actions will occur.

11. The method according to claim 10, wherein at least one of the one or more predetermined actions is specified in the instructions.

12. The method according to claim 4, further comprising:

processing, by a recipient device whose address equals a destination address of the IPMP packet, a contents of the predetermined field of the IPMP packet as a data packet.

13. The method according to claim 4, further comprising processing the IPMP packet as a measurement packet by a recipient device whose address is not equal to a destination address of the IPMP packet.

14. An apparatus for performing a measurement in a network comprising:

a processor disposed in a measurement host;

a memory coupled to the processor to store computer readable instructions causing the processor to:

create an Internet Protocol Measurement Protocol (IPMP) packet; and

include in the IPMP packet instructions for a recipient of the IPMP packet, said instructions including an instruction to a recipient to process data included in a predetermined field in the IPMP packet as a data packet.

15. The apparatus according to claim 14, wherein said computer readable instructions further cause said processor to:

encapsulate the IPMP packet in an Internet Protocol (IP) datagram and a predetermined link layer protocol.

16. The apparatus according to claim 15, wherein said computer readable instructions further cause said processor to send the IPMP packet into the network from the measurement host.

17. The apparatus according to claim 16, further comprising a recipient processor disposed in recipient device that receives said IPMP packet, said recipient processor:

identifying the IPMP packet upon receipt by the recipient device; and

examining a contents of the IPMP packet for instructions before

forwarding the IPMP packet by the recipient network device.

18. The apparatus according to claim 14, wherein said instructions include an instruction to insert a time stamp by the recipient network device.

19. The apparatus according to claim 14, wherein said instructions include an instruction to insert additional data providing further details about the time stamp.

20. The apparatus according to claim 19, wherein said additional details include when the time stamp occurred relative to an arrival of the IPMP packet at the recipient network device.

21. The apparatus according to claim 14, wherein said instructions include an instruction to insert a path record.

22. The apparatus according to claim 14, wherein said computer readable instructions further cause said processor to analyze information included in one or more of the following: a reply, an absence of a reply, a delay between the IPMP packet and an IPMP echo reply packet, a value of a time to live value in an IPMP echo reply packet, a path record, and a presence of one or more errors in an IPMP echo reply packet.

23. The apparatus according to claim 14, wherein the instructions in the IPMP packet include a time to live value to be decremented by each recipient of the IPMP packet until the time to live value reaches zero, in which case one or more predetermined actions will occur.

24. The apparatus according to claim 23, wherein at least one of the one or more predetermined actions is specified in the instructions.

25. The apparatus according to claim 17, further comprising a recipient processor disposed in a recipient device to:

process if an address of the recipient device equals a destination address of the IPMP packet, a contents of the predetermined field of the IPMP packet as a data packet.

26. The apparatus according to claim 17, further comprising a recipient processor disposed in a recipient device to process the IPMP packet as a measurement packet if an address of the recipient device is not equal to a destination address of the IPMP packet.

27. A computer readable media having encoded thereon a plurality of computer readable instructions causing a processor to:

create an Internet Protocol Measurement Protocol (IPMP) packet; and

include in the IPMP packet instructions for a recipient of the IPMP packet, said instructions including an instruction to a recipient to process data included in a predetermined field in the IPMP packet as a data packet.